[0068] The slidable plate member **41** includes a plurality of recesses or holes **42** that equals the number of keys **44**. The recesses or holes **42** are provided with a slanting edge **48** that collaborates with a slanting surface **47** that is provided on a protrusion of **46** on the underside of the keys **44**. The slidable plate member **41** is urged by the switch **13** to assume the position indicated in FIG. **12**.

[0069] When one of the keys **44** is depressed the cooperating two slanting surfaces **47** and **48** urge the slidable plate member **41** towards the resilient switch **13**, and if the user presses hard enough on a key **44** the resilient switch **13** will establish an electrical contact.

[0070] According to a variation (not shown) of the third embodiment, the plate member **41** is not suspended slidably but rather pivotally. In this variation of the third embodiment the plate member **41** rotates when any of the keys **44** are depressed and the biased switch **13** is activated by a notch or ledge associated with the pivotable plate member.

[0071] FIG. **13** illustrates in block diagram form the general architecture of a mobile phone **1** constructed in accordance with the present invention. A processor **18** controls the communication with the cellular network via the transmitter/receiver circuit **19** and an internal antenna **20**. The processor **18** contains the digital signal processing unit (DSP) **17** and a RAM memory **15** whilst a ROM memory **16** is external in relation to the processor **18**. A microphone **6** transforms the user's speech into analogue signals, the analogue signals formed thereby are A/D converted in an A/D converter (not shown) before the speech is encoded in the DSP **17**. The encoded speech signal is transferred to the processor **18**, which e.g. supports the GSM terminal software. The processor **18** also forms the interface to the peripheral units of the apparatus, the Flash ROM memory **16**, the graphical display **3**, the navigation key **10**, the touch sensors **14**, a biased switch **13** and keypad lighting **21** (as well as data, power supply, etc.). The digital signal-processing unit **17** speech-decodes the signal, which is transferred from the processor **18** to the speaker **5** via a D/A converter (not shown).

[0072] The processor **18** is configured via program commands in the terminal software to recognize which of the keys of the keyboard **7** (according to any of the above embodiments) has been depressed from the signal of the touch sensors **14**. The processor **18** is also configured to await the activation of the biased switch **13** before considering a depression of a key as an input. Thus, when the user presses a key of the keyboard **7**, the processor **18** can determine by means of a signal from the touch sensors **14** which of those keys is depressed, whilst the processor can determine by means of the signal from the biased switch **13** that a "real" keystroke has been made. The term "real" is used in this context to distinguish from an inadvertent or accidental touch of a key. Without the verification through the biased switch **13** the use of touch sensors **14** in a mobile device, such as a mobile phone would be very problematic (in particular in non-folding or non-sliding models or other models without a keypad cover or protection) since the keys will be touched to a great extent when the device is for example placed in a pocket or a bag or simply held in the hand of the user, and in these situations the activations of the touch sensors should not be regarded as user input.

[0073] Further, the biased switch **13** provides tactile feedback that improves user confidence and comfort. Such tactile feedback is not available in conventional touch sensitive keypads. The use of touch sensors or a touch sensitive area allows a much greater freedom in designing and constructing the surface of the keypad, for example due to the absence of parting lines.

[0074] The processor **18** can be programmed to await activation of the backlighting of the keys until the biased switch **13** is activated. In order to provide optical feedback to the user the processor **18** can be programmed to activate the backlighting of all or only of the depressed key when the biased switch **13** is activated.

[0075] According to a fourth embodiment (not shown) of the keypad according to the invention the keypad includes a touch screen mechanically coupled to a biased switch. The touchscreen is used to display the keypad graphics. The touchscreen is preferably connected to a processor in a device in which the keypad is used and the processor is configured to display the appropriate (virtual) keys in accordance with circumstances. The virtual keys on the touchscreen therefore change in accordance with the application that is running on the device, or could change in response to events, such as a changing status of the device, in accordance with program commands in the software running on the processor of such a device.

[0076] Further, the device in which the keypad is used is provided with an orientation sensor, and the processor is configured to change the orientation of the key graphics shown on the touchscreen in accordance with the signal from the orientation sensor. Thus, if the user changes the orientation of the device the processor automatically adapts the keypad graphics to the new orientation of the device, so that the key graphics will maintain the correct orientation with respect to the gravitational field regardless of the orientation of the device.

[0077] The keypads described above can be used in any electronic device, such as (stationary) personal computers, computer mice, laptop computers, palmtop computers, mobile phones, mobile navigation devices, music players, audio and visual equipment, control panels for professional equipment, etc.

[0078] The term "comprising" as used in the claims does not exclude other elements or steps. The term "a" or "an" as used in the claims does not exclude a plurality.

[0079] The reference signs used in the claims shall not be construed as limiting the scope.

[0080] Although the present invention has been described in detail for purpose of illustration, it is understood that such detail is solely for that purpose, and variations can be made therein by those skilled in the art without departing from the scope of the invention.

1. A keypad for use with an electronic device, said keypad comprising a plurality of discrete keys formed by touch sensors or a plurality of virtual keys in a touch sensitive area, said plurality of discrete or virtual keys being mechanically coupled to a biased switch that is activated by pressing any of said discrete or virtual keys.

2. A keypad according to claim **1**, wherein said biased switch provides tactile and/or aural feedback.

3. A keypad according to claim **1**, wherein said biased switch acts with a snap action.

4. A keypad according to claim **3**, wherein the biased switch is a dome switch.

5. A keypad according to claim **3**, wherein the discrete keys form a flush surface substantially without part lines.